

REMARKS

Claims 1 and 4-20 are all the claims pending in the application. Claims 2 and 3 have been canceled without prejudice or disclaimer and claims 7-20 have been newly added.

Drawings

The drawings stand objected to for including the number 70 and the letter Q, which are not mentioned in the description. The specification has been amended to correct a typographical error so that it now includes the number 70. No new matter has been added. Additionally, the letter Q has been deleted from Fig. 6. Therefore, the objection is believed to be overcome.

Specification

The specification has been objected to for failing to include a description of the number 70 and the letter Q. As stated above, the specification has been amended to include the number 70 and the letter Q has been deleted from the drawings. No new matter has been added.

Claim Rejections - 35 U.S.C. § 112

Claims 3 and 4 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicants have canceled claim 3 rendering the rejection of claim 3 moot. However, Applicants have incorporated the subject matter of claim 3 into claim 1. Therefore, Applicants have clarified the subject matter incorporated into claim 1, so that claim 1 clearly recites that there is at least one fluid circulation branch associated with each of the north, south, east and west faces. That is, the language recites four fluid circulation branches, one for each of the north, south, east and west faces. The circulation branches all have inlets and outlets connected to the at least one evaporator; the claim does not require a particular evaporator for each branch. See, for example, the non-limiting embodiments of Fig. 3 which shows four branches each with

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/787,131

Q79967

AMENDMENTS TO THE DRAWINGS

Please replace the sheet including Fig. 6 with the attached replacement sheet. Fig. 6 has been amended to remove the reference letter “Q.”

Attachment: One (1) Replacement Sheet

inlets and outlets connected to the six evaporators 50. Claim 1 is therefore definite. Claim 4 now depends from claim 1. Therefore, any indefiniteness issues related to claim 4 being dependent upon claim 3, have been resolved.

Claim Rejections - 35 U.S.C. § 103

A) Claims 1-3 and 6

Claims 1 and 3-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yee (U.S. Patent No. 6,478,258). Applicants respectfully traverse this rejection because Yee fails to disclose each and every element as claimed.

Claim 1 sets forth a fluid loop with at least one evaporator and four branches. One branch is associated with each of the north, south, east and west faces of the satellite and includes a fluid condenser which is thermally connected to the face with which the branch is associated and wherein each branch is communicated with the same evaporator. With reference to a non-limiting embodiment of the specification, a loop configured as set forth in claim 1 allows for vapor to be condensed efficiently in the condensers of the colder branches and with a very low efficiency in the branch for the hottest face (*see* page 4, lines 10-13). Yee fails to teach the specific configuration set forth in claim 1.

The Examiner asserts that Yee teaches that any of the sides may be used as radiator locations. However, even if true, this does not specify that the Yee device is configured as claimed. As stated above, claim 1 sets forth a fluid loop with at least one branch associated with each of four radiator panels. Additionally, each branch includes a condenser. Yee fails to teach fluid loops with multiple branches at all and certainly fails to teach the specific configuration of multiple branches as claimed. Although Yee states that the loop heat pipes may be routed to

multiple radiator panels (*see* column 2, lines 56-59), there is no indication that this is done through multiple branches or through multiple branches with the claimed configuration. Specifically, there is no indication that the Yee device includes multiple branches routed to various radiator panels, with each branch having a condenser and each branch connected to the same evaporator or evaporators as claimed. Accordingly, claim 1 is allowable over Yee. Claim 6 depends from claim 1 and is therefore allowable at least because of its dependency.

Claims 2 and 3 have been canceled, rendering their rejection moot.

B) Claim 4

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yee in view of Fredley (U.S. Patent No. 4,899,810). Claim 4 depends from claim 1. Even if it were appropriate to modify Yee with Fredley as suggested by the Examiner, the proposed modification still would not correct the above noted deficiencies of Yee with respect to claim 1. Accordingly, claim 4 is allowable over the combined teachings and suggestions of Yee and Fredley.

C) Claim 5

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yee and further in view of Watts (U.S. Patent No. 5,806,803). Claim 5 depends from claim 1. Watts fails to correct the above-noted deficiencies of Yee with respect to claim 1. Therefore, even if it were appropriate to modify Yee with Watts as suggested by the Examiner, the combination would still be deficient with respect to claim 1 and to claim 5, which depends from claim 1.

New Claims


Applicants have added new claims 7-20 in order to provide a more varied scope of protection. New claims 7, 15 and 20 set forth fluid loops with a fluid circulation branch for each of four radiators, radiator panels or means for radiating, and are therefore allowable at least for some reasons similar to those given above with respect to claim 1. Claims 8-14 depend from claim 7 and claims 16-19 depend from claim 15 and are therefore allowable at least because of their dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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